

**TIMING BELT AUTOTENSIONER
WITH AN ANTI-TOOTH SKIP MECHANISM**

Abstract.

5 A timing belt autotensioner includes a mechanism actuated by the reversal of
timing belt movement direction. In automotive applications reversal of timing belt
direction occurs only rarely under inadvertent or accidental circumstances. Such
reversals can cause belt slackening sufficient for a toothed belt to jump gear teeth
thereby changing engine cam shaft timing. Four related mechanisms are disclosed,
each of which will, upon actuation by belt reversal cause the autotensioner pulley axis
10 of rotation to move in a direction that tightens the belt during reverse movement of
the belt. Thus, the belt remains tight to the toothed pulleys preventing jump or skip
of the belt until the belt returns to proper forward belt movement. A torque limiter
incorporated in the mechanism limits to a predetermined amount the torque generated
in the mechanism by the reverse movement of the belt.

15 (JMD\Timing Belt Eur. Patent Applic.)